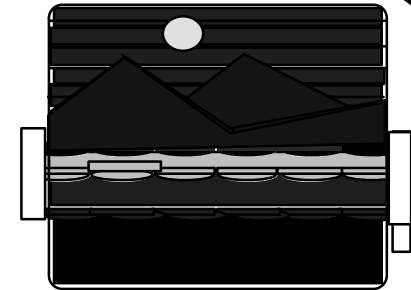


ESWG Meeting

6/6/96

AGENDA



- **Status**
- **EOSDIS Information Technology Security Officer (EITSO) Operations**
- **LaRCRisk Questionnaire**
- **Java Security**
- **Issues**
- **Next Meeting -August 15, 1996 @2:00 PM
Blg. 32, Rm. 103**

STATUS

EGS V1

- **SI&T near completion**

- Only (2) security requirements were not satisfied in ECS
- Moved to Release A

- **I&T for ECS Release A in progress**

- **Finished CDR for Release B. (ECS)**

- 3 Security-Related RIDs identified
- Responses completed for each

- **Finished CDR for EBnet**

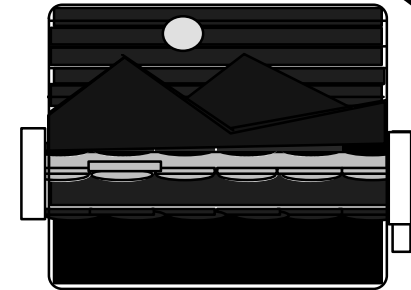
- 3 Security-Related RIDs Identified
- Responses completed for each

- **Risk Analysis**

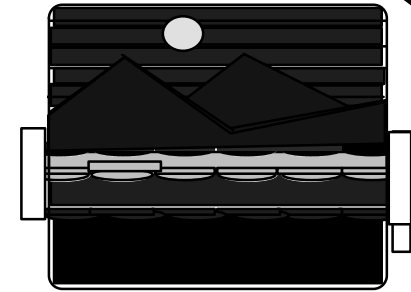
- Needs to be rescoped. Coordination with the DAACs and elements is needed.
- Plan to use ECS Risk Management Plan (DID627) as template for EOSDIS Risk Management Plan

- **ST&E**

- Received documents from most Elements and document review is in progress
- Planning for ST&E for Release A is in progress
- BAH attended the TICTOC to brief the Elements about security



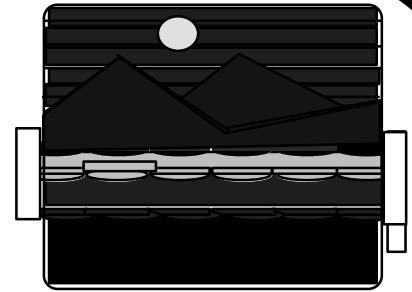
EITSO Operations



- **Development Security**
 - **Roles and Responsibilities**

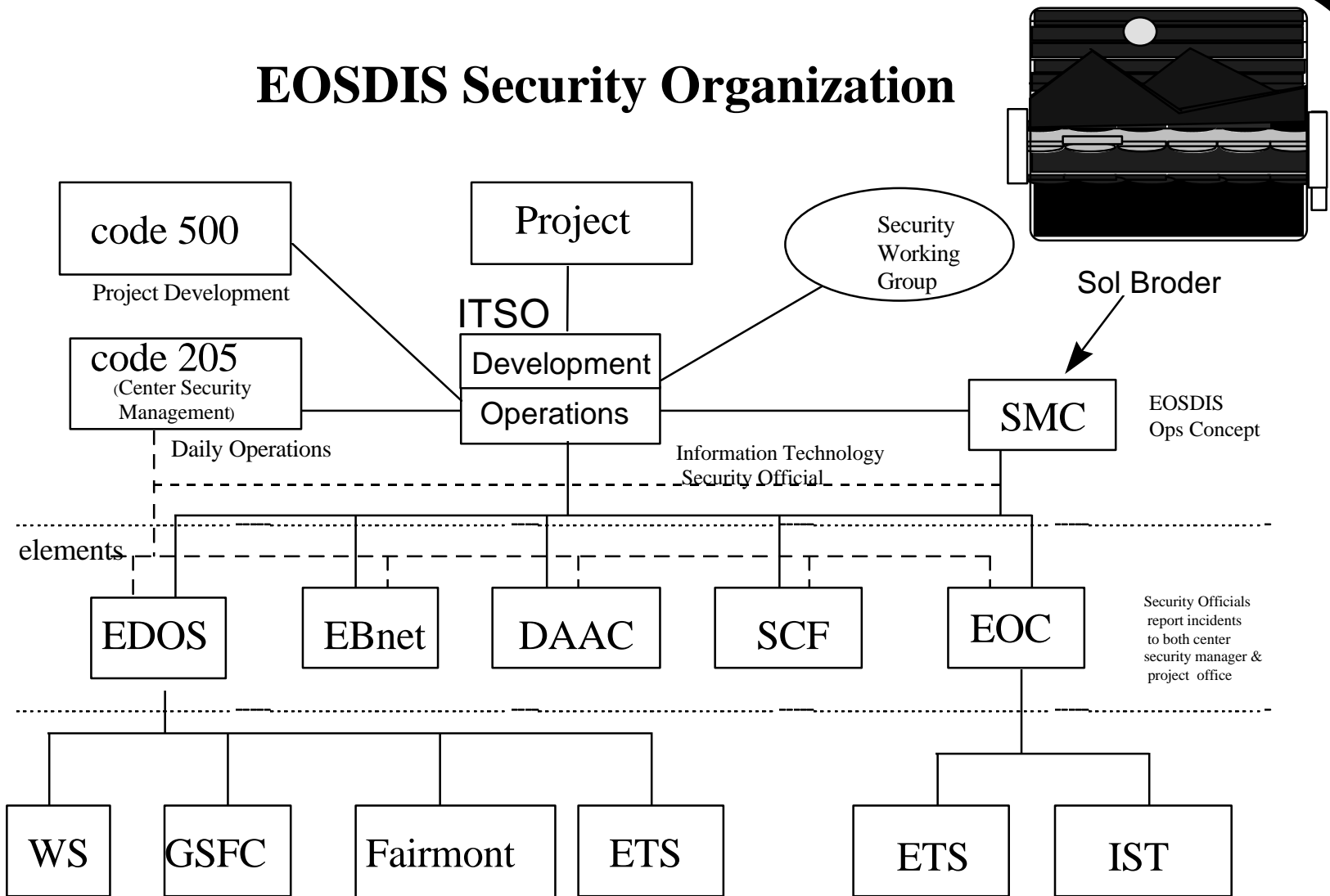
- **Operations Security (After Government Acceptance)**
 - **Roles and Responsibilities**
 - **Multiple Releases**
 - **SI&T**

- **Recommendations**
 - **Designate SMC Manager, Sol Broder,
to ITSO for Operations**
 - **Letter will be submitted**



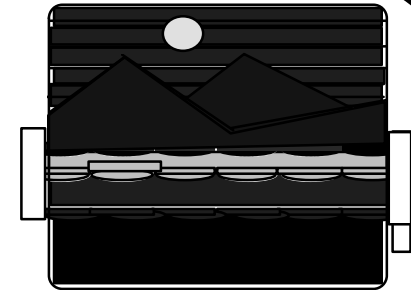
ITSO Operations

EOSDIS Security Organization



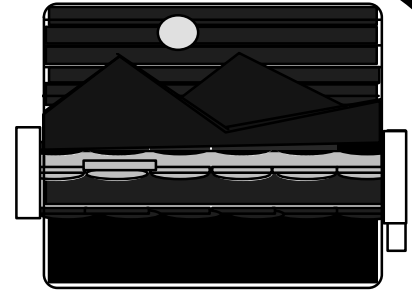
Coordinators Report
Incidents to Element
Security Officials

LaRCRisk Questionnaire



EOSDIS Elements responsible for completing the LaRCRisk Questionnaire have indicated that additional clarification was needed regarding assigning the correct facility person to complete each questionnaire. Below is a definition of the LaRC Risk Questionnaire facility personnel.

- **Branch Representative - Typically, the person in charge of the facility being surveyed.**
- **Senior Administrator- This is usually the facility operations manager or the person fulfilling that function.**
- **Senior User- This is typically a senior systems operator or an operations shift supervisor.**
- **UNIX Administrator - Typically, the UNIX system manager.**
- **UNIX User - All UNIX users having authorization to access an UNIX system. (i.e., Science, Operators and Developers)**

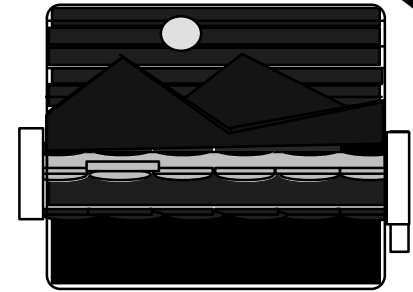


Java Security

Muata Belton

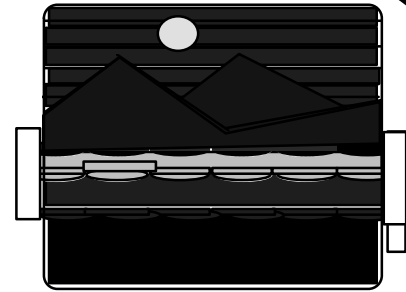
June 6, 1996

Agenda



- **Background**
- **Security Features**
- **Discussion**

Background

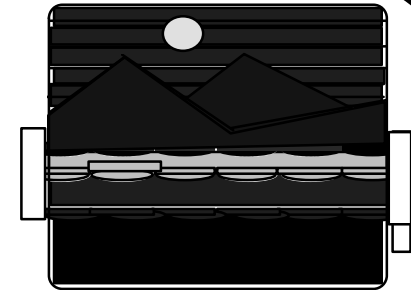


Java - A programming language developed by Sun Microsystems (1991) that is platform independent, making it suitable for distributed application development on a heterogeneous set of machines (e.g. the Internet)

Characteristics:

- **Simple** - Java language resembles C and C++
- **Object-Oriented** - Java class structure focuses on objects and interfaces that support software reuse
- **Portability** - Data types are explicitly specified allowing Java library routines to define portable interfaces
- **Distributed** - Java applications can access objects across the Internet easily via URLs.
- **Architectural Neutral** - Supports applications on networks with variety of CPUs and operating system.
- **Secure** - Java authentication is based on public key encryption.
- **Robust** - Built-in mechanisms to increase application reliability (i.e. significant error checking)

Security Features



- **Access Control** - Data hiding and encapsulation can be used to protect Packages, Classes, Fields.
- **Pointer Elimination** - Java does not use pointers, referencing of objects handled automatically making it difficult to write virus software.
- **Garbage Collection** - Objects that are not in use are automatically deleted.
- **Security Manager** - a security object that performs code execution checking to determine a operation is permitted.
- **Security Exception** - error code is generated for an exception detected in Security Manager.

Discussion

EOSDIS Security Policy and Guidelines

Access Controls

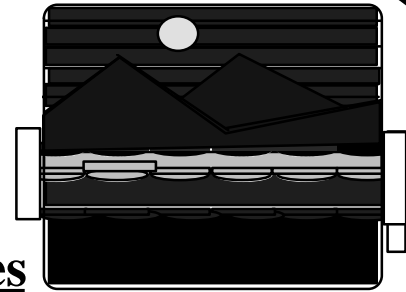
Network Access

Application Protection

Data Integrity

Data Privacy

Java Security Features



Data Hiding and Encapsulation

**Web Browsers and Applet Viewers
carefully restrict network operations.
(Warning: Denial of service attacks
exist)**

Data Hiding and Encapsulation

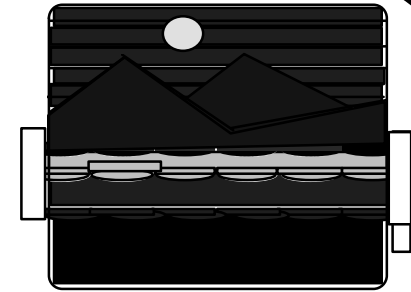
Security Manager

Data Hiding and Encapsulation

Security Manager

Java

Terms



Applet - A mini-application that runs in a Java enabled browser.

Applet Viewer - Java development tool with the applicability of viewing applets.

Classes - A collection of data and methods that operate on the data.

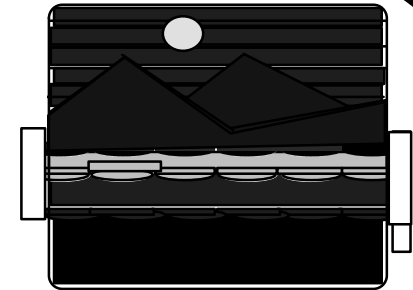
Fields - Variables of a class.

Objects - An instance of a class.

Packages - A file containing a collection of common classes.

Web Browser - An application having the applicability accessing the Internet and viewing the Internet information.

ISSUES



Any issues and/or problems relating to the following:

- **ECS;**
DES Exportability;
- **EDOS;**
- **EBnet;**
- **DAACs;**
- **FOS; and**
- **ETS.**